

1           **CLAIMS**

2

3       1. A method, comprising:  
4           providing a pane element;  
5           based at least in part on execution of the pane element, invoking logic  
6           associated with the pane element wherein the logic specifies at least some  
7           attributes of a pane; and  
8           generating the pane having the specified attributes.

9

10      2. The method as recited in claim 1, wherein the pane element directs a  
11           reference to and execution of the associated logic.

12

13      3. The method as recited in claim 1, wherein the pane element  
14           comprises a tag.

15

16      4. The method as recited in claim 1, wherein the pane element  
17           comprises an HTML tag.

18

19      5. The method as recited in claim 3, wherein executing the tag causes  
20           the invoking of the logic.

21

22      6. The method as recited in claim 1, wherein the providing provides a  
23           document that includes a pane element.

1       7.     The method as recited in claim 1, wherein the providing provides a  
2 document that includes markup language.

3  
4       8.     The method as recited in claim 1, wherein the logic includes pane-  
5 generating instructions.

6  
7       9.     The method as recited in claim 1, wherein the generating generates a  
8 viewable pane as an area of a web page.

9  
10      10.    A method, comprising:  
11           providing a pane element in a web page document for producing a web  
12 page; and  
13           executing the pane element wherein the executing invokes logic associated  
14 with the pane element, wherein the logic specifies at least some attributes of a  
15 pane, and wherein the executing generates a pane having the specified attributes.

16  
17      11.    The method as recited in claim 10, wherein the web page document  
18 comprises HTML.

19  
20      12.    The method as recited in claim 10, wherein the logic associated with  
21 the pane element comprises at least one element behavior associated with the pane  
22 element.

1       13. The method as recited in claim 10, wherein the pane element  
2 includes pane attributes to determine one of a size, a dimension, a shape, a color, a  
3 format, a priority, and a style of the pane.

4

5       14. The method as recited in claim 10, wherein the pane element  
6 includes associated content capable of being displayed in the pane.

7

8       15. The method as recited in claim 14, wherein the display content is  
9 one of a text, an image, a link, and a user interface.

10

11      16. The method as recited in claim 15, wherein the user interface has  
12 interactive controls, wherein a user can provide input in response to the content.

13

14      17. The method as recited in claim 14, wherein the pane element  
15 includes content attributes to determine one of a size, a dimension, a shape, a  
16 color, a format, a priority, a style, and a font of the content to be displayed in the  
17 pane.

18

19      18. The method as recited in claim 17, wherein the pane-generating  
20 instructions determine the pane attributes based on the amount of content.

21

22      19. The method as recited in claim 17, wherein the associated logic  
23 determines the pane attributes based on the content attributes.

1        20. The method as recited in claim 10, further comprising multiple pane  
2 elements in the web page document to generate multiple panes in the web page.

3  
4        21. The method as recited in claim 20, wherein the associated logic  
5 adjusts a first pane depending on a characteristic of a second pane.

6  
7        22. The method as recited in claim 21, wherein a pane adjusts itself  
8 depending on a characteristic or behavior of one or more other panes.

9  
10      23. The method as recited in claim 21, wherein a first pane adjusts a  
11 second pane depending on a characteristic or behavior of the first pane.

12  
13      24. The method as recited in claim 21, wherein an attribute of the first  
14 pane is adjusted based on changing content in the second pane.

15  
16      25. The method as recited in claim 21, wherein an attribute of content in  
17 the first pane is changed based on a change in an attribute of content in the second  
18 pane.

19  
20      26. The method as recited in claim 25, wherein content in the second  
21 pane is changed as the content is edited in the first pane.

22  
23      27. The method as recited in claim 20, wherein the associated logic  
24 assigns a placement to each pane in the web page.

1        28. The method as recited in claim 27, wherein the placement includes a  
2 pane size and a position in the web page.

3  
4        29. The method as recited in claim 27, wherein the placement of one  
5 pane depends at least in part on the placement of remaining panes of the multiple  
6 panes.

7  
8        30. The method as recited in claim 27, wherein the placement includes a  
9 z-order of display priority in response to an overlapping of two or more of the  
10 multiple panes, wherein a pane having the highest z-order of display priority is  
11 focused by having the remaining panes subordinated to the focused pane by  
12 appearing to be displayed behind the focused pane.

13  
14        31. The method as recited in claim 30, wherein if one or more of the  
15 multiple panes include an interactive user interface, then changing the z-order of  
16 display priority to give a highest priority to a pane with an interactive user  
17 interface in current use.

18  
19        32. A web page document, comprising:  
20              content to be displayed in a web page resulting from rendering the web  
21              page document;  
22              markup tags to indicate instructions for displaying the content in the web  
23              page; and

1           a pane element to provide instructions for using a division of a computer  
2 display screen, wherein execution of the pane tag causes pane-generating  
3 instructions to be substituted for the pane tag.

4

5           33. The web page document as recited in claim 32, wherein the web  
6 page document is an HTML document.

7

8           34. The web page document as recited in claim 32, wherein the pane-  
9 generating instructions are at least one element behavior bound to the pane  
10 element.

11

12          35. The web page document as recited in claim 32, wherein the pane  
13 element includes pane attributes to determine one of a size, a dimension, a shape, a  
14 color, a format, a priority, and a style of the pane.

15

16          36. The web page document as recited in claim 32, wherein the content  
17 is one of a text, an image, a link, and a user interface.

18

19          37. The web page document as recited in claim 36, wherein the pane-  
20 generating instructions determine the pane attributes based on attributes of the  
21 content.

22

23          38. The web page document as recited in claim 32, further comprising  
24 multiple pane elements in the web page document to generate multiple panes in  
25 the web page.

1  
2       39. The web page document as recited in claim 38, wherein a pane-  
3 generating instruction adjusts a first pane depending on a characteristic of a second  
4 pane.

5  
6       40. The web page document as recited in claim 39, wherein an attribute  
7 of the first pane is adjusted based on changing content in the second pane.

8  
9       41. The web page document as recited in claim 39, wherein an attribute  
10 of content in the first pane is changed based on a change in an attribute of content  
11 in the second pane.

12  
13       42. The web page document as recited in claim 39, wherein content in  
14 the second pane is changed as the content is edited in the first pane.

15  
16       43. The web page document as recited in claim 32, wherein the pane-  
17 generating instructions assign a placement on a display screen to each pane in the  
18 web page.

19  
20       44. The web page document as recited in claim 43, wherein the  
21 placement includes a pane size and a position in the web page.

22  
23       45. The web page document as recited in claim 44, wherein the  
24 placement of one pane depends at least in part on the placement of remaining  
25 panes of the multiple panes.

1  
2       46. The web page document as recited in claim 45, wherein the  
3 placement includes a z-order of display priority in response to an overlapping of  
4 two or more of the multiple panes, wherein a pane having the highest z-order of  
5 display priority is focused by having the remaining panes subordinated to the  
6 focused pane by appearing to be displayed behind the focused pane.

7  
8       47. A pane element for a markup language document, comprising:  
9           a starting tag including a reference to underlying pane-generating logic  
10 bound to the pane element for generating a web page pane, wherein a web browser  
11 can find the pane-generating logic using the reference; and  
12           optionally, a list of attribute variables, wherein an attribute value can be  
13 specified and implemented by the underlying pane-generating logic.

14  
15       48. The pane element as recited in claim 47, further comprising an  
16 ending tag, wherein content for display in the web page pane is includable  
17 between the starting tag and the ending tag.

18  
19       49. A pane engine, comprising:  
20           a pane attribute assignor;  
21           a pane sizer; and  
22           a pane positioner, wherein a pane element included in a web page document  
23 references the pane engine to generate a web page pane.

1       50. The pane engine as recited in claim 49, further comprising default  
2 pane attributes for generating the web page pane.

3  
4       51. The pane engine as recited in claim 50, further comprising an  
5 attribute reader to obtain one of pane attributes and content attributes selected by a  
6 user.

7  
8       52. The pane engine as recited in claim 49, further comprising a  
9 multipane coordinator to generate the web page pane based at least in part on  
10 attributes of one or more other web page panes.

11  
12      53. The pane engine as recited in claim 52, wherein the multipane  
13 coordinator includes a Z-order prioritizer to determine an order of web page panes  
14 in a cascaded stack of web page panes appearing on a display screen.

15  
16      54. The pane engine as recited in claim 52, further comprising a focus  
17 assignor to determine which pane of multiple panes is active or on top of a  
18 cascaded stack of web page panes appearing on a display screen.

19  
20      55. The pane engine as recited in claim 52, further comprising an  
21 attribute interrelation module including a pane attribute analyzer and a content  
22 attribute analyzer, wherein a pane attribute of a first pane is determined based on a  
23 pane attribute or a content attribute of a second pane.

1       56. The pane engine as recited in claim 52, further comprising a  
2 dynamic content linker to enable changes in a content of a first pane to affect  
3 display of a content in a second pane.

4

5       57. The pane engine as recited in claim 52, further comprising a  
6 common resource linker, wherein changes in content in the common resource are  
7 simultaneously displayed in two or more panes.

8

9       58. One or more computer readable media containing instructions that  
10 are executable by a computer to perform actions, comprising:

11             executing language elements in a markup language document to generate a  
12 web page; and

13             executing a pane element in the markup language document to generate a  
14 web page pane, wherein a web page pane is a division of a computer display  
15 screen, and wherein execution of the pane element causes pane-generating  
16 instructions written in the markup language to be substituted for the pane element.

17

18       59. The one or more computer readable media as recited in claim 58,  
19 wherein the markup language document is an HTML document.

20

21       60. The one or more computer readable media as recited in claim 59,  
22 wherein the pane-generating instructions are an element behavior bound to the  
23 pane element.

1       61. A method, comprising:  
2           providing a markup language tag for creating a pane in a web page;  
3           based at least in part on execution of the tag, invoking logic associated with  
4       the tag wherein the logic specifies at least some attributes of a pane; and  
5           generating the pane having the specified attributes.

6  
7       62. The method as recited in claim 61, wherein the tag directs a  
8       reference to and execution of the associated logic.

9  
10      63. The method as recited in claim 61, wherein the markup language is a  
11       hypertext markup language.

12  
13      64. The method as recited in claim 61, wherein the providing provides a  
14       document that includes the tag.

15  
16      65. The method as recited in claim 61, wherein the providing provides a  
17       document that includes markup language.

18  
19      66. The method as recited in claim 61, wherein the logic includes pane-  
20       generating instructions.

21  
22      67. The method as recited in claim 61, wherein the generating generates  
23       a viewable pane as an area of a web page.